

The Golden Age: Development in Art and Science

The Gupta Age has been called the **Golden Age of Indian Culture** because of the level civilization and culture had attained during this period. This period is marked by rapid development in art, architecture, literature and science. It also saw the emergence of the first international residential university in the world, the Nalanda University. Extensive inventions and discoveries were made in science, technology, engineering, art, literature, logic, mathematics, astronomy, religion and philosophy. These developments are discussed here.

Review

1. How important was the king in the Gupta Empire?
2. Write a short note on the provincial administration of the Guptas.
3. How many soldiers did Chandragupta II's army have?

Education Nalanda University

The Nalanda University, in present-day Nalanda district of Bihar, was supposedly the first international residential university in the world. Nalanda's history begins under the Gupta Empire in fifth century CE. A seal identifies a monarch named **Sakraditya** as its founder

during the reign of Kumaragupta I. At its peak, it had 10,000 students and 2,000 teachers on its rolls. They came from different parts of India, China, Tibet, Korea, Java, Sri Lanka, Japan, Sumatra and various other places.

The education imparted here was free of cost. Revenue was collected from 200 villages to meet the expenses. The subjects such as **theology**, logic, mathematics, philosophy, grammar, astrology, medicine and language were taught here. Admission was held through an entrance examination. Hiuen Tsang's accounts give us vivid information about the university. At a point of time, he too taught here.

Apart from hostels for the students, the university had a central assembly hall with various prayer halls, parks, pavements and rest halls. It also had a central kitchen. There was a huge nine-storey library which had the finest Buddhist and Hindu manuscripts.

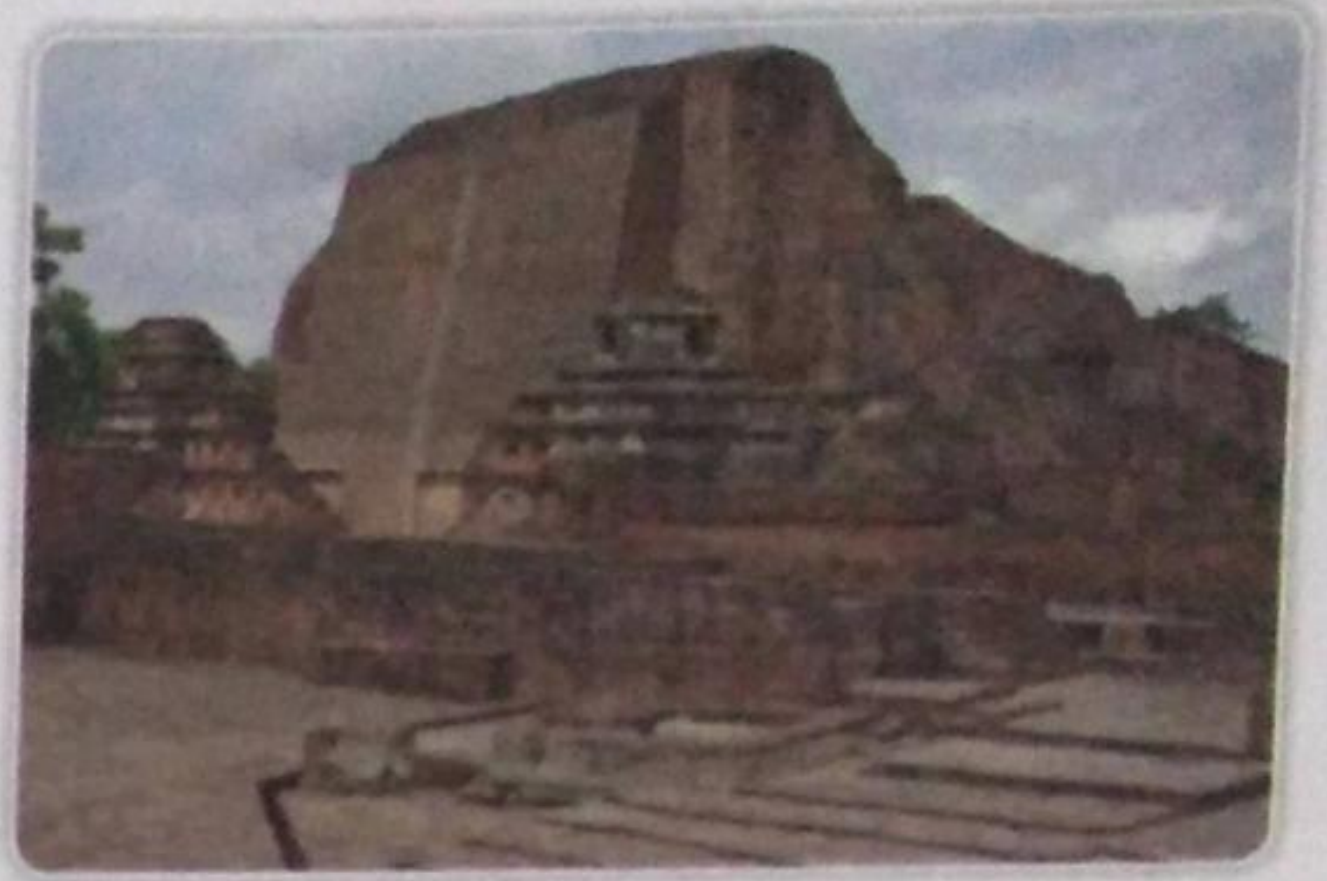
By the end of the Pala Dynasty in the eleventh century CE, there was a revival of Brahmanism. Buddhism lost its popularity with which the decline of Nalanda University was directly related. The final blow was struck by the Turkic general, **Bakhtiyar Khalji's** raid in 1193.

Science

The Gupta period also witnessed immense progress in the field of science. This age saw great scientists, mathematicians, astronomers and physicians. Some of them were the following.

Aryabhata: A great mathematician and astronomer, *Aryabhatiya* and *Surya Siddhanta* are his two famous works. *Aryabhatiya* is a monumental work dealing with algebra, arithmetic, geometry and trigonometry. These are some of his achievements.

- Aryabhata discovered the exact value of pi as 3.1416.
- He was the first to proclaim that the Earth was a sphere rotating on its axis around the Sun.
- He also said that eclipses were caused by the Earth's shadow on the Moon.
- With remarkable accuracy, Aryabhata calculated the length of the solar year to be 365.3586805 days.
- He discovered the rule for finding the area of a triangle.



▲ Ruins of Nalanda University

Review

1. What is *Prayaga Prasasti*?
2. What is meant by the *panchayatana* style?
3. Where did the students of the Nalanda University come from? What subjects were taught here?



▲ Coins of the Gupta period

Aryabhata is credited with the initial acquaintance and use of the decimal and notional system in mathematics. He also knew the use of zero. Later, the numerical system was called Arabic numerals as Arabs, after learning it from Indians, took it to Europe. They had given the system the name *Hindse* meaning, 'from India'.

Sanskrit Literature

Sanskrit received the encouragement and patronage from the Guptas. The period witnessed the revival of Hinduism. Its knowledge became a symbol of culture. It also became the language of the learned and was used in official documents and inscriptions.

The Gupta rulers had patronised numerous scholars, poets and dramatists who produced some of their greatest works during this time.

Kalidasa was an Indian dramatist and poet. He is regarded as the greatest figure in classical Sanskrit literature. Some of his works are:

- the plays—*Abhijnanashakuntalam* (The Recognition of Shakuntala), *Vikramorvashiyam* (Urvashi Won by Valour) and *Malavikagnimitram* (Malavika and Agnimitra)
- the epic poems—*Raghuvamsham* (Dynasty of Raghu) and *Kumarasambhavam* (Birth of the War God)
- the lyric *Meghadutam* (Cloud Messenger)

Kalidasa's works give us reliable information about various aspects of the Gupta period such as the society, religion and government.

Culture Architecture

The Vishnu temple at Deogarh was first described in detail by Alexander Cunningham in his tour of 1874–77. He referred to it as the Gupta temple. It is also referred to as the Dashavatara temple due to the ten avatars or incarnations of Vishnu depicted on the temple walls. Built in the sixth century, the temple is situated in Deogarh, Uttar Pradesh. It is one of the earliest Hindu stone-temples which still survives.

The Vishnu Temple is a fine example of the ornate and beautiful nature of Gupta architecture. Some of its features are the following.

- It is made up of stones and bricks. It is placed on a large terraced platform with four corner shrines (now ruined). This arrangement, known as the *panchayatana*, became popular throughout the subcontinent and was followed till the eighteenth century.
- The Dashavatara Temple was the first North Indian temple with a tower or *shikhara*. A part of the *shikhara* has eroded in time.
- The temple also consists of a single cubical sanctum.
- The exterior is sculpted with scenes from the *Ramayan*. The entrance and pillars have beautiful paintings and carvings.
- Impressions of Vishnu have been sculpted both in the interior and exterior walls of the temple. On the outer wall, he is shown asleep on the coil of *Sheshnaga*, the giant serpent.



▲ Outer wall of Dashavatara temple at Deogarh

The Gupta period launched a new era in the history of Indian architecture, painting and sculpture. The age is connected with the phenomenal growth and development of temples. Unfortunately, most examples of the Gupta architecture have been lost in to the ravages of time. Moreover, the Hunas destroyed most of the architectural work of those days.

Answer the following:

1. "The Gupta Age has been called the Golden Age of Indian Culture" - In this context, discuss:

- a) Educational development.
- b) Scientific development.
- c) Literary development.

2. Discuss the architectural development of the Guptas.